

Amendments to the Claims: This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. Canceled

2. (Amended) The element of claim ~~1~~ 8 in which the first polymeric material comprises about 25 to about 75 mol% of N-phenylmaleimide; about 10 to about 50 mol% of methacrylamide; and about 5 to about 30 mol% of methacrylic acid.

3. (Amended) An imageable element comprising, in order:

a substrate having a hydrophilic surface,

an underlayer comprising a first polymeric material over the hydrophilic surface, and

a top layer comprising a second polymeric material over the underlayer,

in which:

the second polymeric material is crosslinked;

the top layer is ink receptive and insoluble in an alkaline developer;

the top layer and the underlayer are each removable by the alkaline developer following thermal exposure of the element;

the element comprises a photothermal conversion material, and

~~The element of claim 1 in which~~ the second polymeric material comprises a crosslinked self-crosslinking material.

4. (Original) The element of claim 3 in which the crosslinked self-crosslinking material is a crosslinked self-crosslinking acrylic emulsion or a crosslinked self-crosslinking urethane/acrylic emulsion.

5. (Amended) An imageable element comprising, in order:

a substrate having a hydrophilic surface,

an underlayer comprising a first polymeric material over the hydrophilic surface, and

a top layer comprising a second polymeric material over the underlayer,

in which:

the second polymeric material is crosslinked;

the top layer is ink receptive and insoluble in an alkaline developer;

the top layer and the underlayer are each removable by the alkaline developer following thermal exposure of the element;

the element comprises a photothermal conversion material, and

~~The element of claim 1 in which the second polymeric material comprises a crosslinked melamine resin.~~

6. (Amended) An imageable element comprising, in order:

a substrate having a hydrophilic surface,

an underlayer comprising a first polymeric material over the hydrophilic surface, and

a top layer comprising a second polymeric material over the underlayer,

in which:

the second polymeric material is crosslinked;

the top layer is ink receptive and insoluble in an alkaline developer;

the top layer and the underlayer are each removable by the alkaline developer following thermal exposure of the element;

the element comprises a photothermal conversion material, and

~~The element of claim 1 in which~~ the second polymeric material comprises a crosslinked carboxylic acid containing polymer and a crosslinked compound that comprises epoxide or arizidine functionality.

7. (Amended) An imageable element comprising, in order:

a substrate having a hydrophilic surface,

an underlayer comprising a first polymeric material over the hydrophilic surface, and

a top layer comprising a second polymeric material over the underlayer,

in which:

the second polymeric material is crosslinked;

the top layer is ink receptive and insoluble in an alkaline developer;

the top layer and the underlayer are each removable by the alkaline developer following thermal exposure of the element;

the element comprises a photothermal conversion material, and

~~The element of claim 1 in which~~ the second polymeric material comprises a crosslinked naphthoquinone diazide or a crosslinked mixture of a novolac resin and a resole resin.

8. (Amended) An imageable element comprising, in order:

a substrate having a hydrophilic surface,

an underlayer comprising a first polymeric material over the hydrophilic surface, and

a top layer comprising a second polymeric material over the underlayer,

in which:

the second polymeric material is crosslinked;

the top layer is ink receptive and insoluble in an alkaline developer;

the top layer and the underlayer are each removable by the alkaline developer following thermal exposure of the element;

the element comprises a photothermal conversion material, and

~~The element of claim 1 in which~~ the top layer is substantially free of the photothermal conversion material.

9. (Original) The element of claim 8 in which the second polymeric material comprises a crosslinked self-crosslinking material.

10. (Original) The element of claim 9 in which the crosslinked self-crosslinking material is a crosslinked self-crosslinking acrylic emulsion or a crosslinked self-crosslinking urethane/acrylic emulsion.

11. (Original) The element of claim 8 in which the second polymeric material comprises a crosslinked melamine resin.

12. (Original) The element of claim 8 in which the second polymeric material comprises a crosslinked carboxylic acid containing polymer and a crosslinked compound that comprises epoxide or arizidine functionality.

13. (Original) The element of claim 8 in which the second polymeric material comprises a crosslinked naphthoquinone diazide or a crosslinked mixture of a novolac resin and a resole resin.

14. (Original) The element of claim 8 additionally comprising an absorber layer between the underlayer and the top layer, in which the absorber layer comprises the photothermal conversion material.

15. (Original) The element of claim 8 in which the underlayer comprises the photothermal conversion material.

16. Canceled

17. (Amended) A method for forming an imageable element, the imageable element comprising, in order:

a substrate having a hydrophilic surface,

an underlayer comprising a first polymeric material over the hydrophilic surface, and

a top layer comprising a second polymeric material over the underlayer,

in which:

the second polymeric material is crosslinked;

the top layer is ink receptive and insoluble in an alkaline developer;

the top layer and the underlayer are each removable by the alkaline developer following thermal exposure of the element; and

the element comprises a photothermal conversion material;

the method comprising the steps of:

(a) forming the underlayer over the hydrophilic surface of the substrate;

(b) applying a coating solution comprising a coating solvent and a crosslinkable material over the underlayer; and

(c) crosslinking the crosslinkable material to form the second polymeric material;

~~The method of claim 16~~ in which the crosslinkable material is crosslinked by heating.

18. (Amended) A method for forming an imageable element, the imageable element comprising, in order:

a substrate having a hydrophilic surface,

an underlayer comprising a first polymeric material over the hydrophilic surface, and

a top layer comprising a second polymeric material over the underlayer,

in which:

the second polymeric material is crosslinked;

the top layer is ink receptive and insoluble in an alkaline developer;

the top layer and the underlayer are each removable by the alkaline developer following thermal exposure of the element; and

the element comprises a photothermal conversion material;

the method comprising the steps of:

(a) forming the underlayer over the hydrophilic surface of the substrate;

(b) applying a coating solution comprising a coating solvent and a crosslinkable material over the underlayer; and

(c) crosslinking the crosslinkable material to form the second polymeric material;

~~The method of claim 16~~ in which the crosslinkable material is crosslinked by irradiation with ultraviolet radiation.

19. (Amended) A method for forming an imageable element, the imageable element comprising, in order:

a substrate having a hydrophilic surface,

an underlayer comprising a first polymeric material over the hydrophilic surface, and

a top layer comprising a second polymeric material over the underlayer,

in which:

the second polymeric material is crosslinked;

the top layer is ink receptive and insoluble in an alkaline developer;

the top layer and the underlayer are each removable by the alkaline developer following

thermal exposure of the element; and

the element comprises a photothermal conversion material;

the method comprising the steps of:

(a) forming the underlayer over the hydrophilic surface of the substrate;

(b) applying a coating solution comprising a coating solvent and a crosslinkable material over the underlayer; and

(c) crosslinking the crosslinkable material to form the second polymeric material;

~~The method of claim 16~~ in which the crosslinkable material comprises a self-crosslinking material.

20. (Amended) A method for forming an imageable element, the imageable element comprising, in order:

a substrate having a hydrophilic surface,

an underlayer comprising a first polymeric material over the hydrophilic surface, and

a top layer comprising a second polymeric material over the underlayer,

in which:

the second polymeric material is crosslinked;

the top layer is ink receptive and insoluble in an alkaline developer;

the top layer and the underlayer are each removable by the alkaline developer following thermal exposure of the element; and

the element comprises a photothermal conversion material;

the method comprising the steps of:

(a) forming the underlayer over the hydrophilic surface of the substrate;

(b) applying a coating solution comprising a coating solvent and a crosslinkable material over the underlayer; and

(c) crosslinking the crosslinkable material to form the second polymeric material;

~~The method of claim 16~~ in which the coating solvent comprises water.

21. (Original) The method of claim 20 in which the crosslinkable material comprises a self-crosslinking acrylic emulsion or a self-crosslinking urethane/acrylic emulsion.

22. (Original) The method of claim 20 in which the crosslinkable material comprises a melamine resin.

23. (Original) The method of claim 20 in which the crosslinkable material comprises a carboxylic acid containing polymer and a compound that comprises epoxide or arizidine functionality.

24. (Original) The method of claim 20 in which the crosslinkable material is crosslinked by heating.

25. (Amended) A method for forming an imageable element, the imageable element comprising, in order:

a substrate having a hydrophilic surface,

an underlayer comprising a first polymeric material over the hydrophilic surface, and

a top layer comprising a second polymeric material over the underlayer,

in which:

the second polymeric material is crosslinked;

the top layer is ink receptive and insoluble in an alkaline developer;

the top layer and the underlayer are each removable by the alkaline developer following thermal exposure of the element; and

the element comprises a photothermal conversion material;

the method comprising the steps of:

(a) forming the underlayer over the hydrophilic surface of the substrate;

(b) applying a coating solution comprising a coating solvent and a crosslinkable material over the underlayer; and

(c) crosslinking the crosslinkable material to form the second polymeric material;

~~The method of claim 16~~ in which the coating solvent is an organic solvent or a mixture of organic solvents.

26. (Original) The method of claim 25 in which the crosslinkable material is crosslinked by heating.

27. (Original) The method of claim 25 in which the crosslinkable material is crosslinked by irradiation with ultraviolet radiation.

28. (Original) The method of claim 25 in which the crosslinkable material comprises a carboxylic acid containing polymer and a compound that comprises epoxide or arizidine functionality.

29. (Original) The method of claim 25 in which the crosslinkable material comprises a naphthoquinone diazide or a mixture of a novolac resin and a resole resin.

30.-32. Canceled

33. (Amended) A method for forming an image, the method comprising the steps of:
thermally imaging an imageable element and forming an exposed imageable element comprising exposed and unexposed regions; and

developing the exposed imageable element with an alkaline developer and removing the exposed regions;

in which the imageable element comprises, in order:

a substrate having a hydrophilic surface,

an underlayer comprising a first polymeric material over the hydrophilic surface, and

a top layer comprising a second polymeric material over the underlayer,

in which:

the second polymeric material is crosslinked;

the top layer is ink receptive and insoluble in an alkaline developer;

the top layer and the underlayer are each removable by the alkaline developer following thermal exposure of the element;

the element comprises a photothermal conversion material;

the imaging step is carried out with infrared radiation;

the second polymeric material comprises a crosslinked self-crosslinking material, and

~~The method of claim 32 in which the crosslinked self-crosslinking material is a crosslinked self-crosslinking acrylic emulsion or a crosslinked self-crosslinking urethane/acrylic emulsion.~~

34. (Amended) A method for forming an image, the method comprising the steps of:

thermally imaging an imageable element and forming an exposed imageable element comprising exposed and unexposed regions; and

developing the exposed imageable element with an alkaline developer and removing the exposed regions;

in which the imageable element comprises, in order:

a substrate having a hydrophilic surface,

an underlayer comprising a first polymeric material over the hydrophilic surface, and

a top layer comprising a second polymeric material over the underlayer,

in which:

the second polymeric material is crosslinked;

the top layer is ink receptive and insoluble in an alkaline developer;

the top layer and the underlayer are each removable by the alkaline developer following thermal exposure of the element;

the element comprises a photothermal conversion material;

the imaging step is carried out with infrared radiation; and

~~The method of claim 31 in which~~ the second polymeric material comprises a crosslinked melamine resin.

35. (Amended) A method for forming an image, the method comprising the steps of:

thermally imaging an imageable element and forming an exposed imageable element comprising exposed and unexposed regions; and

developing the exposed imageable element with an alkaline developer and removing the exposed regions;

in which the imageable element comprises, in order:

a substrate having a hydrophilic surface,

an underlayer comprising a first polymeric material over the hydrophilic surface, and

a top layer comprising a second polymeric material over the underlayer,

in which:

the second polymeric material is crosslinked;

the top layer is ink receptive and insoluble in an alkaline developer;

the top layer and the underlayer are each removable by the alkaline developer following thermal exposure of the element;

the element comprises a photothermal conversion material;

the imaging step is carried out with infrared radiation; and

~~The method of claim 31 in which~~ the second polymeric material comprises a crosslinked carboxylic acid containing polymer and a crosslinked compound that comprises epoxide or arizidine functionality.

36. (Amended) A method for forming an image, the method comprising the steps of:

thermally imaging an imageable element and forming an exposed imageable element comprising exposed and unexposed regions; and

developing the exposed imageable element with an alkaline developer and removing the exposed regions;

in which the imageable element comprises, in order:

a substrate having a hydrophilic surface,

an underlayer comprising a first polymeric material over the hydrophilic surface, and

a top layer comprising a second polymeric material over the underlayer,

in which:

the second polymeric material is crosslinked;

the top layer is ink receptive and insoluble in an alkaline developer;

the top layer and the underlayer are each removable by the alkaline developer following thermal exposure of the element;

the element comprises a photothermal conversion material;

the imaging step is carried out with infrared radiation; and

~~The method of claim 31 in which the second polymeric material comprises a crosslinked naphthoquinone diazide or a crosslinked mixture of a novolac resin and a resole resin.~~

37. (Amended) A method for forming an image, the method comprising the steps of:
thermally imaging an imageable element and forming an exposed imageable element
comprising exposed and unexposed regions; and
developing the exposed imageable element with an alkaline developer and removing the
exposed regions;

in which the imageable element comprises, in order:

a substrate having a hydrophilic surface,

an underlayer comprising a first polymeric material over the hydrophilic surface, and

a top layer comprising a second polymeric material over the underlayer,

in which:

the second polymeric material is crosslinked;

the top layer is ink receptive and insoluble in an alkaline developer;

the top layer and the underlayer are each removable by the alkaline developer following
thermal exposure of the element;

the element comprises a photothermal conversion material;

the imaging step is carried out with infrared radiation; and

~~The method of claim 31 in which the top layer is substantially free of the photothermal conversion material.~~

38. (Previously Presented) The method of claim 37 in which the second polymeric

material comprises a crosslinked self-crosslinking material.

39. (Previously Presented) The method of claim 38 in which the crosslinked self-crosslinking material is a crosslinked self-crosslinking acrylic emulsion or a crosslinked self-crosslinking urethane/acrylic emulsion.

40. (Previously Presented) The method of claim 37 in which the second polymeric material comprises a crosslinked melamine resin.

41. (Previously Presented) The method of claim 37 in which the second polymeric material comprises a crosslinked carboxylic acid containing polymer and a crosslinked compound that comprises epoxide or arizidine functionality.

42. (Previously Presented) The method of claim 37 in which the second polymeric material comprises a crosslinked naphthoquinone diazide or a crosslinked mixture of a novolac resin and a resole resin.